

REMARKS

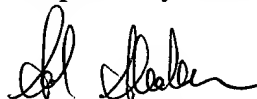
The above amendments are made to more clearly define applicant's invention.
No new matter is added by the above amendments.

Attached hereto is a marked-up version of the changes made to the
specification and claims by the current amendment. The attached page is captioned
"Version with markings to shown changes made."

Claims 1 – 33 are to be considered in the application.

An early and favorable action is therefore respectfully requested.

Respectfully submitted,



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Date: August 28, 2002

VERSION WITH MARKINGS TO SHOWN CHANGES MADE

In the Claims:

Claims 1 - 6, and 9 - 14 have been amended.

Claim 1 has been amended as follows:

-- 1.(Amended) A system for automatic process control ~~comprising an empirical prediction model of a process having an input space comprising input boundaries, the model requiring empirical data, and wherein at least some data for the empirical prediction model is simulated data.~~ system comprising:

a measurement unit for taking measurements of said process at selected points of said input space,

a controller, controllably associated with said input space, for selecting said points of said input space such as to maximize information about said input space from a predetermined number of said points, and

a regressor for obtaining a predictive model of said process over said input space by regression from said measurements, thereby to provide said automatic process control. --

Claim 2 has been amended as follows:

-- 2. (Amended) A system according to claim 1, wherein ~~the simulated data is data obtainable from~~ said predictive model comprises a first formula describing the process. --

Claim 3 has been amended as follows:

-- 3. (Amended) A system according to claim 2, wherein ~~the first formula is obtainable by regression from a data set of experimental results of the process run at least at its input boundaries~~ said points comprise at least input boundaries of said process. --

Claim 4 has been amended as follows:

-- 4. (Amended) A system according to claim 3, wherein ~~the simulated data is obtainable from said first formula at~~ said points comprise further desired points across said input space. --

Claim 5 has been amended as follows:

5. A system according to claim 4, wherein said ~~data set comprises the results of experiments having input conditions and whose input conditions~~ points are definable by a geometric spacing ~~of said experiments across~~ said input space.

Claim 6 has been amended as follows:

-- 6. (Amended) A system according to claim 5, wherein said geometric spacing is selectable to give an even spread of ~~experiments~~ points across said input space. --

Claim 9 has been amended as follows:

-- 9. (Amended) A system according to claim 2, wherein said ~~first formula~~ predictive model is any one of a group comprising a linear formula, a linear formula with interaction between inputs, a quadratic formula and a quadratic formula with interaction between inputs. --

Claim 10 has been amended as follows:

-- 10. (Amended) A system according to claim 1, wherein said input space is divisible into discrete regions, and wherein said ~~empirical~~ predictive model comprises predicted process outputs associated with each discrete region. --

Claim 11 has been amended as follows:

-- 11. (Amended) A system according to claim ~~9~~ 10, wherein said input space is divisible into discrete regions, and wherein said ~~empirical~~ predictive model comprises predicted outputs associated with each discrete region. --

Claim 12 has been amended as follows:

-- 12. (Amended) A system according to claim 11, wherein results for said predicted outputs are producible by said ~~first formula~~ predictive model and obtainable from running said process, said results being interchangeable within said empirical model. --

Claim 13 has been amended as follows:

-- 13. (Amended) A system according to claim 12, further having an empirical results quantity assessor for interchanging results produced by said ~~first formula~~

predictive model with results obtained from running said process when said results obtained from running said process are assessed to be statistically significant according to at least one predetermined criterion of significance. --

Claim 14 has been amended as follows:

-- 14. (Amended) A system according to claim 12, having a prediction quality assessor for interchanging results obtained by running said process with results obtained from said ~~first formula~~ predictive model when a prediction of said ~~empirical~~ predictive model is assessed to diverge significantly from an outcome of said process according to at least one predetermined criterion of significance. --